REMARKS

Entry of this amendment and reconsideration of this application, as amended, are respectfully requested in order to place this application in condition for allowance or to minimize the issues on appeal.

Applicants have carefully studied the outstanding Final Office Action and believe the present amendment, filed in accordance with 37 CFR 1.116, to be fully responsive to all points of final rejection raised by the Examiner, and to place the application in condition for allowance. Applicants further respectfully submit that the claim amendments and new claims are of a minor nature and do not raise new issues, and as such, should not *per se* require the Examiner to perform a further search. For all of the above reasons, entry of this amendment is earnestly requested, as well as favorable reconsideration and allowance of the application.

Claims 58, 60-62, 66, 68-70 and 73 have been amended, claims 74-76 have been cancelled, and claims 78-79 have been added. No new matter has been presented herein.

Claim 76 has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite. This rejection should be withdrawn, because claim 76 has been cancelled.

Many of the claims have been rejected under 35 U.S.C. 102(b) and 103(a), because, according to the Examiner, the instant claims are open, in addition to including pre-fermentation waste, to including the cited prior art which covers post-fermentation wastes, e.g., the claims do not exclude the addition of yeast and bacteria which will bring about fermentation. Applicants respectfully disagree with these rejections and traverse them, because a claim that is open to covering both pre- and post-fermentation wastes cannot be anticipated by a prior art reference that only covers post-fermentation wastes.

Claims 58-66, 68, 70-73 have been rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Nos. 51,022,577 (JP '577) in light of 75,002,901 (JP '901) and U.S. Patent No. 3,713,838 (U.S. '838). Applicants respectfully disagree with this rejection, and traverse it. It is believed that the claims are not subject to rejection under 35 USC 102(b), for the following reasons.

JP '577 discloses a fertilizer manufactured by using waste liquor from whisky fermentation. This waste liquor is **post**-fermentation waste. Additionally, JP '901 refers to the use of a **post**-fermentation liquid waste product which is calcined to 850° C. Further, the processing involved in JP '901 renders the product devoid of the natural hormones, yeast and the like inherently present in the pre-fermentation materials of the claimed invention. Also, U.S. '838 disclose uses for a **post**-fermentation product which is further processed to produce a beer flavoring. Here, the claimed fertilizer is made from "spent grain liquor" which is **pre**-fermentation waste. The differences in pre- versus post-fermentation waste products distinguish the cited prior art from the instant claims, and thus the anticipation rejection is not proper.

Additionally, claims 58-66, 68, 71, 72-73 have been rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Nos. 02,022,191 (JP '191) or 05,163,089 (JP '089). Applicants respectfully disagree with this rejection, and traverse it. It is believed that the claims are not subject to rejection under 35 USC 102(b), for the following reasons.

JP '191 discloses the manufacture of a fully mature compost from malt **and** hop residue. The JP '191 reference discloses the addition of lime in order to further activate the activity of the compound microorganism groups in the beer refuse and shorten the fermentation process of the compost. In contrast, the instant claims as amended do not disclose the addition of lime. Also, JP '191 and '089 disclose the preparation of fertilizers and humus-like products by decomposition of waste materials including brewing wastes. The claimed fertilizer is different from the disclosures, in that the claimed fertilizer is made from spent grain liquor, which is a **pre**-fermentation product not a **post**-fermentation product. These differences distinguish the cited prior art from the instant claims, and thus the anticipation rejection is not proper.

Furthermore, claims 58-67, 72-75 have been rejected under 35 USC 102(b) as being anticipated by U.S. Patent Nos. 4,960452 and 4,661,358 to Brokken ("the Brokken patents"). Applicants respectfully disagree with this rejection, and traverse it. It is

believed that the claims are not subject to rejection under 35 USC 102(b), for the following reasons.

The Brokken patents disclose the use of brewer's wort, which is a sterilized material comprising residual wort, i.e., a post-fermentation product. As noted supra, the instant claims disclose the use of pre-fermentation product, which is distinguishable from a post-fermentation product. Moreover, the Brokken patents disclose alkali-modified brewers wort, not just brewer's wort, i.e., the pH of the modified wort is adjusted to about 10-12. This pH would completely destroy any residual hormones which are present in a pre-fermentation product, and thus the Brokken patents' disclosure of a fertilizer that has been processed in high alkaline conditions is not encompassed by the instant claims. These differences, pre- versus post-fermentation waste and additional processing (pH adjustment to about 10-12) not present in the instant claims, distinguish the cited prior art from the instant claims, and thus the anticipation rejection is not proper.

Additionally, applicants submit that it is well known in the art that spent grain liquor is not wort. For example, the abstract of U.S. Pat. No. 4,197,321 to Chyba et al. (the "'321 patent") (see attached copy) states that:

> In the brewing of beer, spent grain at about 90% moisture from a straining tank having no internal rotating rake is collected and pumped to a centrifuge which reduces the moisture of the spent grain to about 70% and provides spent grain liquor of about 2.0 to 4.5% or more of total solids.

The '321 patent further states throughout column 1 that spent grain liquor is obtained from spent grain after the wort is drawn off. (See, e.g., col. 1 lines 18 -24, 30-32, and 36-39). The claimed invention is not directed to the "resulting liquid which is strained from the grains in a process known as lautering" (see dictionary meaning made of record by Examiner), but is directed to the liquid obtained from the strained grains after the wort has been removed and following sparging and extraction of the fermentable sugars, a major constituent of wort, in the lauter tun. (See specification pg. 13-14; pg. 6, lines 8-10; and pg. 17 line 10; see also Daoud col. 6 line 51 to col. 7 line 12, stating that wort is extracted from the mash followed by the filtering off of the last runnings, and then the

discharging of the spent grains from the system). Since spent grain liquor is not wort, and the amended claims do not refer only to malt extract, the instant claims are distinguishable from the cited prior art, and thus the anticipation rejection should be withdrawn.

Also, claims 58-68, and 70-73 have been rejected under 35 USC 102(b) as being anticipated by Australian Patent No. 159/66 (AU 159/66). Applicants respectfully disagree with this rejection, and traverse it. It is believed that the claims are not subject to rejection under 35 USC 102(b), for the following reasons.

AU 159/66 discloses a soluble humus which is prepared with acid at elevated temperatures – up to 200° C. In contrast, the instant claims do not involve a humus-like product, or acid and high temperature treatment, steps associated with **post**-fermentation steps rather than **pre**-fermentation. As noted supra, the start materials disclosed in the instant claims are **pre**-fermentation by-products, not **post**-fermentation materials as disclosed in AU 159/66. These differences, distinguish the cited prior art from the instant claims, and thus the anticipation rejection is not proper.

Moreover, claims 58-68 and 70-73 have been rejected under 35 USC 102(b) as being anticipated by Australian Patent No. (AU) 12453/28 or U.S. Patent No. 3,983,255 to Bass. Applicants respectfully disagree with this rejection, and traverse it. It is believed that the claims are not subject to rejection under 35 USC 102(b), for the following reasons.

AU 12453/28 discloses the use of distillery waste, e.g., spent wash, distillery slop, or like distillery residues. The distillery residues are treated with finely ground phosphatidic material (bone) and sulfuric acid with or without subsequent drying. Also, the process disclosed by AU 12453/28 involves the concentration of the waste slop material with heat. As noted supra, the use of strong acids and a high temperature process is not contemplated by the instant claims, steps associated with **post**-fermentation steps rather than **pre**-fermentation. Also, Bass discloses a fertilizer made from molasses fermentation. Again, the start materials disclosed in the instant claims are **pre**-fermentation by-products, not **post**-fermentation as disclosed in Bass. These differences,

distinguish the cited prior art from the instant claims, and thus the anticipation rejection is not proper.

Further, claims 69-70 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent No. 02,022,191 in view of Japanese Patent No. 05,1630,89 and U.S. Patent No. 3,961,078, in further view of U.S. Patent No. 3,713,838. Applicants respectfully disagree with this rejection, and traverse it. It is believed that the claims are not subject to rejection under 35 USC 103(a), for the following reasons.

The arguments advanced above regarding the 35 U.S.C. 102(b) rejections are equally applicable to the 35 U.S.C. 103(a) rejection, i.e., the cited references teach **post**-fermentation by-products, not **pre**-fermentation by-products. Therefore, this difference distinguishes the cited prior art from the instant claims, and thus the obviousness rejection is not proper.

Finally, claims 76 and 77 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Brokken patents in view of Targan (US Pat. No. 4,496,605 and Daoud (US Pat. No. 4,844,932).

The arguments advanced above regarding the 35 U.S.C. 102(b) rejections are equally applicable to the 35 U.S.C. 103(a) rejection, i.e., the cited references teach **post**-fermentation by-products, not **pre**-fermentation by-products. Additionally, none of the cited art teach or suggest the use of spent grain liquor. Also, as noted supra, wort is not spent grain liquor. Moreover, the instant claims do not refer only to malt extract. Therefore, these differences distinguish the cited prior art from the instant claims, and thus the obviousness rejection is not proper.

Applicants therefore respectfully submit that the all of the claims, as amended where applicable, are believed to define patentable subject matter over the cited references and are considered to be in condition for allowance.

In view of the foregoing, entry of this amendment, reconsideration, withdrawal of all rejections, and prompt allowance of this application are therefore respectfully requested.

Respectfully submitted,

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